PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	09/991,284
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Applicant:	William Lo
Group Art Unit:	2665
Examiner:	Toan D. Nguyen
Title:	AUTONEGOTIATION BETWEEN 1000BASE-X AND 1000BASE-T
Attorney Docket:	MP0082

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicant requests a Pre-Appeal Brief Conference and contends that the alleged combination of Booth and Dwork is improper, and even if proper, the alleged combination fails to show, teach, or suggest the elements of the presently pending claims.

STATUS OF CLAIMS

Claims 1-12, 20-27, 35-45, 53-64, 73-84, 92-103, 112-123, 131-142, and 151-162 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Booth et al. (U.S. Patent No. 6,516,352) in view of Dwork (U.S. Patent No. 6,717,941). Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Booth in view of Dwork, and further in view of Overs et al. (U.S. Patent No. 6,600,755).

SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 recites an autonegotiation circuit for Ethernet networks. A first device communicates with a first media. A second device communicates with a second media. A network interface connector (NIC) communicates with the first device over the first media and with the second device over the second media and provides autonegotiation between the first and second devices. In other words, the network interface connector provides the autonegotiation. Independent claims 20, 35, 53, 73, 92, 112, 131, and 151 recite similar subject matter. For example, independent claims 20 and 73, recite a network interface connector that provides autonegotiation between first and second devices. Independent claims 35 and 112 recite network interface means for providing autonegotiation between first and second means for communicating. Independent claims 53, 92, 131, and 151 recite using a network interface connector that allows autonegotiation between first and second devices.

ARGUMENT

Applicant submits that the alleged combination of Booth and Dwork is improper, and even if proper, the alleged combination fails to show, teach, or suggest a network interface connector (NIC) that communicates with a first device over first media and with a second device over second media, wherein **said NIC provides autonegotiation between the first and second devices**.

Initially, Applicant respectfully submits that the alleged combination fails to disclose the limitations of Applicant's claims. As shown in an exemplary embodiment in FIGS. 3 and 4 of the present application, a network interface connector (NIC) such as a Gigabit interface connector (GBIC) module 56 communicates with a first device (e.g. a switch 50) via a 1000BASE-X protocol. The GBIC module 56 communicates with a second device 62 via a 1000BASE-T protocol. In other words, the first device communicates over a first media and the second device communicates over a second media. The GBIC module 56 is an exemplary NIC that **provides autonegotiation between the first device and the second device** (i.e. provides autonegotiation for information exchanged **between** the first and second devices).

Applicant respectfully submits that Booth does not appear to disclose any device that **provides autonegotiation between** the alleged first and second devices. The Examiner alleges that FIG. 5 of Booth discloses a first device 430, a second device 440, and a link switch 420 that provides autonegotiation between the first device 430 and the second device 440. In other words, as best understood by Applicant, the Examiner is alleging that the link switch 420 provides autonegotiation between the SERDES device 430 and the G/MII PHY device 440.

Applicant respectfully notes that **there is no autonegotiation between the first device 430 and the second device 440**. Consequently, the link switch 420 **does not provide autonegotiation between the first device 430 and the second device 440**. For example, the SERDES device 430 "couples to a local-area network (such as LAN 300A or B) via a fiber-optic transmission medium." (Column 12, Lines 24-26). The G/MII PHY device 440 "couples to LAN 300 via a copper transmission medium." (Column 12, Lines 26-28). Initially, Applicant notes that Booth appears to be absent of any teaching or suggestion that the alleged NIC (the link switch 420) communicates with the first device over the first media and with the second device over the second media. As noted by the Examiner, each of the devices 430 and 440 communicate with the LAN 300 with respective media (the fiber-optic and copper transmission mediums, respectively), but the link switch 420 does not communicate with the devices 430 and 440 over these media. Instead, the link switch 420 communicates with the devices 430 and 440 "via a pair of transmit and receive buses." (Column 12, Lines 21-23). Booth is silent as to the nature of these buses.

Further, the link switch does not appear to provide autonegotiation between the devices 430 and 440, but instead provides "dynamic switching between physical layer devices 430 and 440." (Column 12, Lines 19-21). More specifically, the link switch 420 "provides a data path between physical interface unit 412 and PHY devices 430 and 440 according to the state of switch signal 544. In other words, the link switch 420 **selectively provides a communication path between the physical interface unit and the device 430 OR the device 440**. The link switch 420 does not provide a communication path between the devices 430 AND 440 and **does not provide autonegotiation between the devices 430 AND 440**.

The Examiner alleges that the Abstract of Booth discloses this structure. The cited portion of Booth states:

> A system and method for **dynamically switching between different physical layer devices (PHYs) in a network interface**. The system comprises a network interface in a network device, e.g., a network card in a computer system which includes a first PHY device and a second PHY device. The first PHY device is coupled to a first transmission medium (such as fiber-optic cable) which requires a continuous connection to the computer system when active. For a SERDES device, this continuous connection is required because the PHY needs constant access to its physical coding sublayer (PCS), which is located external to the PHY. The second PHY device is coupled to a second transmission medium (such as copper cable) which does not require this continuous connection. (Emphasis added).

Applicant respectfully notes that the cited portion appears to be absent of any teaching or suggestion of an NIC that provides autonegotiation between first and second devices over respective first and second media. Instead, Booth appears to be directed to an NIC that switches between physical layer devices. **Switching between physical layer devices is not analogous to autonegotiation between the physical layer devices.**

For example, Applicant respectfully notes that **all three of the alleged devices 420, 430, and 440 are included on an NIC 212 as shown in FIG. 5**. As such, the Examiner's interpretation that the device 420 provides autonegotiation between the devices 430 and 440 is improper. The Examiner appears to rely on the mere mention of autonegotiation to support this interpretation. For example, the Examiner cites Column 13, Lines 15-18, which state that "[t]he SERDES device requires the PCS to perform auto-negotiation. Thus, if the SERDES device is to be the selected interface, the TBI interface within NIC 212 is also active upon power up." Applicant respectfully notes that the preceding lines (Lines 11-13) recite "a SERDES device needs the PCS via the TBI to either **auto-negotiate with its link partner** or to transmit idle codes." (Emphasis added). In other words, Booth discloses **autonegotiation between the SERDES device and its link partner on the network** (i.e. a device external to the NIC 212). The cited portion **does not disclose autonegotiation between the devices 430 and 440**.

Applicant further notes that the alleged combination of Booth and Dwork is improper. The Examiner admits that the device 420 is not an NIC and relies on Dwork to make up for the deficiency of Booth, because "one skilled in the art would have...applied Dwork's network interface in Booth et al.'s link switch 420." Applicant respectfully disagrees. As described above, **the devices 420, 430, and 440 are included on an NIC 212** as shown in FIG. 5 of Booth. One skilled in the art presented with Booth, which already discloses that the devices 420, 430, and 440 are included on an NIC 212, would have no motivation to replace the link switch 420 with another NIC. Further, Applicant respectfully notes that such a combination would be inoperable.

Applicant respectfully submits that the alleged combination of Booth and Dwork is improper. Even if proper, the alleged combination fails to show, teach, or suggest a network interface connector (NIC) that communicates with a first device over first media and with a second device over second media, wherein said NIC provides autonegotiation between the first and second devices. Accordingly, Applicant respectfully submits that the presently pending claims are in condition for allowance.

Respectfully submitted,

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